The 5th LAK InnovateDesign Workshop: Learning Design in a Learning Analytics Ecosystem

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ABSTRACT: This workshop is the fifth in the series of InnovateDesign workshops, within which the LAK community has been introduced and updated about the development of the innovative concept of learning design (LD) and a complimentary tool for creating and analyzing LD, supported by AI. The first part of this year's workshop will be focused on creation of a vision of LD through storytelling, as a starting point for the development of innovative course LDs. This also includes educators' decision-making related to the relative importance of the course learning outcomes. Related to this, the latest upgrades to the BDP tool will be presented and evaluated. Participants will be invited to try out the new functionalities and provide their feedback. In the second part of the workshop, the place of LD in a comprehensive learning analytics system supported by AI will be discussed. This half-day workshop is a collaborative effort by five esteemed universities from Europe, Australia and Asia.

Keywords: learning design, learning analytics, artificial intelligence, vision of learning design, learning analytics ecosystem

1 INTRODUCTION AND BACKGROUND

Learning design (LD), defined as "the documented design and sequencing of teaching practice" (Lockyer et al., 2013), describes the order of learning tasks, resources and related support. As well, LD provides a methodology for teachers and designers to make informed decisions pertaining to the design of learning activities (Conole, 2013). LD is thus "pedagogically informed" and effectively uses resources and technologies.

Grounded in the principles of sound LD and seeking to harness the potential of learning analytics, the Balanced Learning Design Planning (BDP) concept and web-based tool have been developed since 2021 (Divjak et al., 2022) and presented to the LAK community through previous InnovateDesign workshops. The BDP concept and tool draw on current LD research, theory and practice, as well as established LD concepts, particularly the Open University UK's OULDI approach (Conole, 2013; Rienties et al., 2017) and University College London's ABC LD approach (Laurillard et al., 2013). At the same time, BDP introduces substantial innovation and is continuously updated through an iterative design-cycle process to reflect state-of-the-art technological advances, including AI. So far, the BDP tool has been

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used in the design of more than 4000 courses and MOOCs, by over 3500 users from more than 50 countries.

The BDP tool focuses strongly on ensuring constructive alignment (Biggs, 1996) between learning outcomes (LOs), teaching and learning activities (TLAs), assessment, feedback and student workload. In this way, BDP supports a student-centred approach to LD (Divjak et al., 2024). The BDP concept emphasizes the prioritization of LOs and assigning relative importance to them and ensuring assessment validity by reflecting this prioritization in assessment planning (Divjak et al., 2023).

The BDP tool supports educators in the development of LD at course and program level, starting from LOs to the level of topics, units, and TLAs. It provides rich real-time design analytics which can be used to further improve LDs. Furthermore, the tool enables collaborative work, sharing of LDs and the export of LDs to Moodle. Finally, the AI assistant LeDA provides educators with additional support in developing LDs at course and program level (Divjak et al., 2025, 2026).

One of the most innovative features of the BDP approach is related to the course vision. A course vision represents a forward-looking idea of what teaching and learning could be and envisioning the kinds of learning experiences, skills, and values a course should cultivate. Storytelling brings together various elements of a pedagogical vision to create a narrative. In this respect, the BDP tool includes a storyboard which helps educators in making their vision tangible by providing a visual playground for planning TLAs.

When developing a course vision, the BDP approach acknowledges that not all LOs are equally important: while some LOs represent core knowledge and competencies crucial for fulfilling the overall purpose of the course, others play a more supportive or complementary role. Treating LOs as having equal importance may lead to suboptimal LD and assessment strategies. The BDP tool thus supports educators in assigning weights to LOs, promoting the effectiveness of teaching and learning (Kadoić et al., 2026). This workshop will foster a discussion on the concept of a vision of LD and provide hands-on experiences to participants with developing a course design based on a vision with the help of the BDP tool.

Finally, comprising a wealth of data about courses and programs, LD tools like the BDP and their databases can constitute important components of comprehensive LA systems. While there are few examples of successful institutional implementation of LA (Macfadyen, 2022) and a lack of holistic, AI-supported ecosystems that integrate diverse data sources, this workshop will also serve as a platform for a discussion on the integration of LD in future LA ecosystems. While in higher education there are multiple tools generating data, integrating these data is still a challenge, but LA systems using diverse data can improve the usefulness of LA (Samuelsen et al., 2019).

2 LEARNING OUTCOMES, WORKSHOP STRUCTURE AND WEBSITE

In the workshop, the participants will (1) discuss the concept of a vision and storytelling in LD; (2) engage in hands-on course planning in the BDP tool starting from a course vision; (3) provide their feedback to the new BDP tool functionalities; (4) discuss the place of LD in a comprehensive institutional LA ecosystem. The workshop will contribute to operationalisation of the future research agenda on LA and GenAI support for LD and educational decision-making, especially in terms of

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developing multilevel evidence across learners, educators, courses, programs, and institutions, and measuring educational quality beyond engagement and efficiency (Rienties et al., 2026). The half-day workshop, organized in cooperation of five universities, will consist of the parts presented in the table. The expected number of participants is between 12 and 30. Participation in previous workshops is not a prerequisite for participating in this year's workshop.

Table 1. The proposed agenda of the workshop

Duration	Description	Responsible
10 min	Introduction	Organizer 1
30 min	Presentation and discussion: Storytelling and vision of LD	Organizer 1, 5
30 min	Hands-on activity: Developing LD starting from a vision	Organizer 1 - 5
20 min	Discussion: Participants' feedback and further upgrades	Organizer 1 - 5
30 min	*Coffee break*	
30 min	Presentation: Concepts of LA ecosystems	Organizer 1 - 5
50 min	Discussion and contributions by participants: LD in a comprehensive LA ecosystem	Organizer 1 - 5
10 min	Feedback, future steps and conclusions	Organizer 1 - 5

The workshop will be supported by a dedicated website that will provide all relevant information and facilitate pre-workshop planning. The workshop will also be promoted through the SoLAR website, and social media channels. Following the event, the website will continue to support the dissemination of workshop outcomes. The website will include the following sections: About, Background, Literature and Materials, Workshop Agenda, and Submission Area.

3 SHARING OF RESEARCH AND HANDS-ON ACTIVITIES

The workshop will start with a presentation by the workshop organizers focused on the development of a vision of LD through storytelling, integrating a discussion. The presentation will be followed by a showcase of the latest upgrades to the BDP tool which support educators in innovative LD planning starting from the course vision, including decision-making about the relative importance of the course learning outcomes. After that, participants will take part in a hands-on activity and use the BDP tool to start developing their course LDs from an overall vision. They will be invited to provide their feedback, as part of the evaluation process of the new BDP tool's functionalities.

The second part of the workshop will be dedicated to the place of LD in comprehensive LA ecosystems. Current work related to such an ecosystem will be presented, and participants will share their research and development work related to the integration of LD in LA systems. The discussion will include the data that LD tools should expose to an LA ecosystem, the feedback loops needed to channel LA results back into (re)design, and the conditions for trustworthy, AI-supported integration.

4 FUTURE STEPS AND CONCLUSIONS

Participants will be asked to take part in the evaluation of the workshop. The conclusions of the workshop will be shared with the participants after the workshop and feed into further work on the development of a comprehensive LA ecosystem. There will be a possibility to establish further

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collaboration to work on a project and/or a publication. All participants will be able to continue using the BDP tool, as well as share it with their colleagues, free of charge.

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